

IN THE CLAIMS:

1. (Currently Amended) An erythrocyte sedimentation rate ~~Device~~ for measuring device ~~for the sedimentation rate in biological fluids, and especially the rate of erythrocyte sedimentation in~~ blood samples, the device comprising:

holders for test tubes containing samples of biological fluids;

5 agitator devices for agitating said test tubes;

at least ~~[[one]]~~ a first detector and a second detector for detecting the levels inside said test tubes;

a control unit, wherein said holders are formed in a continuous flexible member defining a closed path, ~~along which~~ said agitator devices, said first detector and said ~~at least~~ one second detector ~~[[are]]~~ being arranged in sequence along said path, said first detector being located at a spaced location from said second detector via a sedimentation area, said control unit determining the erythrocyte sedimentation rate based on levels inside said test tubes detected by said first detector and said second detector.

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2. (Currently Amended) A device ~~Device~~ as in claim 1, wherein said agitator devices are arranged and ~~made to induce the oscillation of~~ said agitator devices oscillate said holders such that fluid in said holders is stirred.

3. (Currently Amended) A device ~~Device~~ as in claim 1, wherein the following are arranged along said closed path:

at least one agitating area, wherein said agitator devices are provided, said sedimentation area being located along said closed path;

5 ~~at least one sedimentation area;~~ and

at least one reading area wherein one of said first detector and said second detector is installed.

4. (Currently Amended) A device ~~Device~~ as in claim 1, wherein said flexible member defines a path lying on a substantially horizontal plane.

5. (Currently Amended) A device ~~Device~~ as in claim 1, wherein said holders ~~are composed of~~ comprise elements interconnected to form a flexible chain member.

6. (Currently Amended) A device ~~Device~~ as in claim 5, wherein each of said elements comprises a single seat for a respective test tube.

7. (Currently Amended) A device ~~Device~~ as in claim 5, wherein the elements forming said flexible member are connected together by means of couplings, said flexible member moving in a traveling direction, each of said holders being mounted for movement such that each of said holders is rotatable with respect to an adjacent holder about a horizontal axis, said horizontal axis being parallel to said traveling direction, wherein one or more of said holders rotate about said horizontal axis via at least one of said agitator devices, whereby fluid in said

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one or more of said holders is stirred via said at least one of said agitator devices ~~that enable consecutive elements to rotate with respect to each other so as to make single elements depart from the plane on which the flexible member lies.~~

8. (Currently Amended) A device ~~Device~~ as in claim 7, wherein said couplings are composed of spherical joints.

9. (Currently Amended) A device ~~Device~~ as in claim 4, wherein said agitator devices ~~are made and arranged to induce the oscillation of~~ oscillate said elements forming the flexible chain member such that at least one of said holders rotates about a horizontal axis defined by said continuous flexible member, ~~outside the plane on which the flexible member lies.~~

10. (Currently Amended) A device ~~Device~~ as in claim 9, wherein said agitator devices ~~include~~ comprise guides, ~~said in which the elements forming said continuous flexible chain member are engaged~~ engaging said guides such that said at least one of said holders rotates about said horizontal axis via said guides, ~~thereby causing the oscillation of said elements.~~

11. (Currently Amended) A device ~~Device~~ as in claim 10, wherein said elements have sliding shoes engaging in said guides.

12. (Canceled)

13. (Currently Amended) A device ~~Device~~ as in claim 9, wherein said agitator devices ~~include~~ comprise mobile guides, said mobile guides extending along a portion of the path covered by said flexible member, wherein said elements forming the flexible member are engaged, said guides being ~~made and arranged to induce, with their motion,~~ mounted for movement such that said guides rotate said at least one holder about said horizontal axis, wherein fluid in said at least one holder is mixed via rotation of said at least one holder ~~an oscillation of the elements attached thereto outside the plane on which the continuous flexible member lies.~~

14. (Currently Amended) A device ~~Device~~ as in ~~one or more of the~~ claim 9, wherein said agitator devices comprise a rotor coaxial to a ~~stretch~~ portion of the path of said flexible member and provided with engaging elements for engaging the holders that come to be along said ~~stretch~~ portion along the path of the flexible member, said rotor being mounted for movement such that said rotor rotates or oscillates about an axis thereof ~~capable of a rotating or oscillating movement around its own axis.~~

15. (Currently Amended) A device ~~Device~~ as in claim 14, wherein said engaging elements are in the form of guides within which said holders forming the continuous flexible member are slidingly engaged.

16. (Currently Amended) A device ~~Device~~ as in claim 1, ~~further comprising: a~~ wherein

said first detector is arranged along said closed path, downstream from the agitator devices, and ~~at least one~~ said second detector is arranged further along said path, downstream from a portion of path defining ~~a first~~ said sedimentation area.

17. (Currently Amended) A device ~~Device~~ as in claim 16, further comprising:
a third detector arranged along said path, downstream from a further portion of path defining a second sedimentation area.

18. (Currently Amended) A device ~~Device~~ as in claim 5, wherein said continuous flexible member comprises a transponder associated with each test-tube holder.

19. (Currently Amended) A device ~~Device~~ as in claim 5, wherein each of said elements is associated with a respective transponder.

20. (Currently Amended) A device ~~Device~~ as in claim 18, wherein along said path there are one or more stations for scanning said transponders.

21. (Currently Amended) A device ~~Device~~ as in claim 1, wherein along said closed path there is at least one extractor, for removing the test tubes from said holders.

22. (Currently Amended) A device ~~Device~~ as in claim 21, wherein along said closed

path there are two extractors for removing the test tubes from said holders and distributing them in respective containers.

23. (Currently Amended) A device ~~Device~~ as in claim 1, further comprising automatic manipulators are provided for automatically inserting the test tubes in said holders.

24. (Currently Amended) A device ~~Device~~ as in claim 23, wherein said manipulators are ~~arranged and made to collect~~ move single test tubes from a rack of test tubes and ~~[[to]]~~ insert said test tubes in said holders.

25. (Currently Amended) A device ~~Device~~ as in claim 1, further comprising a setup unit for preparing the test tubes for insertion in said holders.

26. (Currently Amended) A device ~~Device~~ as in claim 25, wherein said setup unit is situated above said continuous flexible member.

27. (Currently Amended) A device ~~Device~~ as in claim 25, wherein said setup unit comprises a reading station for automatically reading labels attached to said test tubes, to ascertain in each case whether ~~[[they]]~~ said test tubes must undergo a measurement of the sedimentation rate of the sample contained therein.

28. (Currently Amended) A device ~~Device~~ as in claims 24, wherein said manipulators are controlled and operated by a central unit as a function of information provided for each test tube by reading stations, to transfer the test tubes in which the sedimentation rate must be measured from the rack to a corresponding holder.

29. (Currently Amended) A device ~~Device~~ as in claim 25, wherein said setup unit comprises at least one first conveyor for moving a plurality of racks containing test tubes with samples of biological fluid to analyze.

30. (Currently Amended) A device ~~Device~~ as in claim 29, wherein said setup unit comprises a first transfer unit for removing single racks from said first conveyor and transferring ~~[[them]]~~ said single racks to said reading station.

31. (Currently Amended) A device ~~Device~~ as in ~~one or more of the~~ claim 24, wherein said manipulators include a lower push bar, said lower push bar engaging ~~coming to bear on~~ the test tubes contained in the racks ~~in order to slide~~ such that said test tubes slide partially out of said racks, and said manipulators comprise a mobile clamp for removing the test tubes from the respective racks and inserting ~~[[them]]~~ said test tubes in corresponding holders in the continuous flexible member.

32. (Currently Amended) A device ~~Device~~ as in claim 29, wherein said setup unit

includes a second conveyor for moving a plurality of racks and a second transfer device for transferring the racks from the second conveyor to the first conveyor ~~of said conveyors~~.

33. (Currently Amended) A device ~~Device~~ as in claim 32, wherein the first transfer device transfers the racks from the first conveyor to the reading station and from ~~[[there]]~~ said reading station to the second conveyor.

34. (Currently Amended) A device ~~Device~~ as in claim 29, further comprising means for identifying the status of each rack associated with ~~at least one of~~ one or more of said first ~~and/or~~ and second conveyors of said setup unit.

35 - 40. (Canceled)

41. (Currently Amended) A device ~~Device~~ as in accordance with claim 2, wherein along said closed path are arranged said sedimentation area, at least one agitating area, wherein said agitator devices are provided, ~~at least one sedimentation area~~, and at least one reading area wherein one of said first detector and said second detector is installed.

42. (Currently Amended) A device ~~Device~~ in accordance with claim 2, wherein said flexible member defines a path lying on a substantially horizontal plane.

43. (Currently Amended) A device ~~Device~~ in accordance with claim 3, wherein said flexible member defines a path lying on a substantially horizontal plane.

44. (Currently Amended) A device ~~Device~~ in accordance with claim 1, wherein said holders ~~are composed of~~ comprise elements interconnected to form a flexible chain member.

45. (Withdrawn, but Currently Amended) A device ~~Method~~ in accordance with claim ~~[[36]]~~ 41, wherein along said path, two readings are taken on biological samples in each test tube, the first reading when the test tube leaves the agitation area and second reading at end of the sedimentation area.

46. (New) A device as claimed in claim 1, wherein:

said continuous flexible member comprises elements connected to one another via couplings, wherein consecutive elements are movable with respect to one another about an axis substantially parallel to a travel direction of said continuous flexible member via said couplings such that each of said elements is rotatable about said axis via at least one of said agitator devices; and

each element comprises at least one seat for one of the test tubes, said at least one of said agitator devices rotating one or more of said elements about said axis such that blood samples contained in said test tubes are mixed via rotation of said elements.

47. (New) A device according to claim 46, wherein said agitation device comprises a rotor and guides, said rotor being mounted for movement such that said rotor rotates about said axis, wherein consecutive elements move along said guides and across said rotor when said elements are advanced along said path, whereby said consecutive elements engage said guides, said rotor rotating said elements and the test tubes held by said seats about said axis.

48. (New) An erythrocyte sedimentation rate measuring device for blood samples, the device comprising:

a plurality of test tubes, each of said test tubes comprising samples of biological fluids;

a plurality of holders, one of said test tubes being inserted into at least one of said holders, each of said holders being connected to an adjacent holder to define an endless flexible member, said endless flexible member being movable along a closed path, each of said holders being rotatable about a horizontal axis with respect to said adjacent holder;

a plurality of agitator devices, at least one of said agitator devices receiving one or more of said holders such that said one or more of said holders is rotated about said horizontal axis, wherein said biological fluids in said one or more of said holders is mixed via rotation of said holders;

a first detector;

a second detector;

a control unit, said agitator devices, said first detector and said second detector being arranged along said closed path, said first detector being arranged adjacent to at least one of

20 said agitator devices, said second detector being disposed downstream of said first detector and said agitator devices, wherein a portion of said endless flexible member extending between said first detector and said second detector defines a sedimentation area, said first detector detecting a first level of said biological fluids in said one or more holders after said one or more holders are rotated by said agitator devices, said second detector detecting a second level of said biological fluids in said one or more holders after said one or more holders are moved along said sedimentation area, said control unit determining an erythrocyte sedimentation rate based on said first level and said second level of said biological fluids.

49. (New) A device according to claim 48, wherein said at least one of said agitator devices rotates said one or more holders from between a first position and a second position, said one or more holders being in a substantially vertical position in said first position, said one or more holders being in a non-vertical position in said second position.

50. (New) A device as in claim 48, wherein said holders via coupling elements, said flexible member moving in a traveling direction, wherein one or more of said holders rotate about said horizontal axis via said coupling elements.

51. (New) An erythrocyte sedimentation rate measuring device for blood samples, the device comprising:

a plurality of test tubes, each of said test tubes comprising samples of biological fluids;

a plurality of holders, one of said test tubes being inserted into at least one of said
5 holders, each of said holders being connected to an adjacent holder to define an endless flexible
member, said endless flexible member being movable along a closed path, each of said holders
being rotatable about a horizontal axis with respect to said adjacent holder;

a holder rotating means for receiving one or more of said holders and rotating said one
or more of said holders about said horizontal axis such that the biological fluids in said test
10 tubes are mixed via rotation of said holders;

a first detector;

a second detector;

a control unit, said holder rotating means, said first detector and said second detector
being arranged along said closed path, said first detector being arranged adjacent to said holder
15 rotating means, said second detector being disposed downstream of said first detector, wherein
a portion of said endless flexible member extends between said first detector and said second
detector, said portion of said endless flexible member defining a sedimentation area, said first
detector detecting a first level of said biological fluids in said one or more holders after said
one or more holders are rotated by said holder rotating means, said one or more holders being
20 moved along said sedimentation area after being detected by said first detector, said second
detector detecting a second level of said biological fluids in said one or more holders after said
one or more holders are moved along said sedimentation area, said control unit determining
an erythrocyte sedimentation rate based on said first level and said second level of said
biological fluids.

52. (New) A device according to claim 51, wherein said holder rotating means rotates said one or more holders from between a first position and a second position, said one or more holders being in a substantially vertical position in said first position, said one or more holders being in a non-vertical position in said second position.